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Scientific and technological activities of provincial governments, 1994/95 to 2002/03

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Foreword

The basic mission of the Science, Innovation and Electronic Information Division of Statistics Canada is to assure the availability of pertinent statistical information, to monitor science and technology activities in Canada and to support the development of science and technology policy. This report is one of many produced by the Science and Innovation Surveys Section to respond to these needs.

The information in this document is intended primarily to be used by scientific and technological (S&T) policy makers, both federal and provincial, largely as a basis for interprovincial and intersectoral comparisons. The surveys that generate these statistics also provide input for the development of a national aggregate Research and Development (R&D) series. These national R&D estimates are used to complete international questionnaires for the Organization for Economic Co-operation and Development (OECD) and the United Nations Education, Scientific and Cultural Organization (UNESCO).

The statistics are aggregates of the provincial government science surveys conducted by Statistics Canada under contract with the provinces, and cover the period 1994-95 to 2002-03 preliminary. The surveys have covered as many as nine provinces, the exception being Prince Edward Island.

Science surveys, like many other surveys, depend on respondents' interpretation of definitions and methods of calculation. Accounting records are rarely available which use a science-based classification. Recognizing the fact that the data are estimates, they are still a good representation of science expenditures for the provinces. As in any ongoing statistical exercise, revisions will be necessary as definitions and procedures become clarified.

This publication was prepared by **Michèle Lanoue** under the direction of **Janet Thompson**, Subject Matter Manager, Science and Innovation Surveys Section, Science, Innovation and Electronic Information Division.

We want to thank those who replied and collaborated to each of the provincial surveys. Without their invaluable help, the production of this report would not have been possible.

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History of provincial S&T surveys

Prior to 1974, estimates were made for provincial government S&T expenditures using provincial estimates and public accounts.

In 1974, Ontario, Alberta and Nova Scotia sought the assistance of Statistics Canada in conducting surveys of S&T spending by their respective governments. In 1975, Saskatchewan joined this group, followed by British Columbia in 1977, Manitoba and New Brunswick in 1984, Newfoundland and Labrador in 1986 and Quebec in 1989.

In 1993-94, three provinces, Newfoundland, New Brunswick and Nova Scotia, did not contract with Statistics Canada for a survey due to budget constraints. In 1994-95, the province of Quebec collected only R&D expenditures instead of total S&T. For the national R&D statistics, estimates are made for provinces for which there is no survey. In 2001-02 Saskatchewan did not contract with Statistics Canada for a survey.

Federal / provincial workshops on S&T statistics

In the fall of 1977, the first federal-provincial meeting was held in Ottawa. Representatives from British Columbia, Alberta, Saskatchewan, Ontario and Nova Scotia attended; as well as Statistics Canada and members of the Ministry of State for Science and Technology (MOSST).

The next meeting was held in 1984 with representatives from British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec and New Brunswick attending. Statistics Canada sponsored the meeting and invited representatives from MOSST, Energy, Mines and Resources (EMR) and the Science Council. The objectives of the conference were:

- To provide provincial science policy and statistical users with an overview of products and services of the Science and Technology Statistics division (STSD);
- To provide a forum to allow discussion between STSD and provincial representatives to exchange views on science statistics;
- Achievement of consensus on how to proceed with future provincial surveys.

In 1999, Ontario proposed to Statistics Canada to renew federal/provincial conferences and make them an annual event. Statistics Canada agreed and co-hosted the 1999 conference in Toronto. The agenda included topics such as innovation surveys, biotechnology surveys, intellectual properties in higher education, e-commerce and provincial needs and proposals.

Quebec and Statistics Canada co-hosted the 2000 conference held in Québec City. Discussions included economic indicators, an innovation study for Ontario, and biotechnology measurement.

In the fall of 2001, British Columbia and Statistics Canada co-hosted the conference in Victoria. Provincial representatives discussed high technology indicators, innovation index, and user needs and challenges. Statistics Canada presented an overview of current program developments and future plans.

Alberta and Statistics Canada co-hosted the 2002 conference held in Edmonton. Discussions included provincial indicators and an overview of current program developments and future plans.

In the fall of 2003, Statistics Canada was supposed to host the 5th annual conference in Ottawa. Due to budget constraints of many provincial governments, the conference was postponed.

106-02355/

Definitions

This report covers those scientific and technological activities which involve the generation, dissemination and application of new scientific and technological knowledge. The central activity is research and experimental development (R&D). In addition, there are a number of activities closely related to R&D these are termed related scientific activities (RSA).

R&D is creative work undertaken on a systematic basis in order to increase the stock of scientific and technical knowledge, including knowledge of culture and society and the use of this stock of knowledge to devise new applications.

It requires the acquisition of knowledge and not just information. New knowledge involves the integration of newly acquired information into existing hypotheses or the re-evaluation of existing observations.

The major related scientific activities are education support, technical surveys, statistical surveys, information services, special services and studies, and museum services. Education support and museum services are largely self-explanatory.

Technical surveys are activities directed towards exploration and systematic description of the earth and its natural resources. The activities include gathering, processing, collating and analyzing of data on natural phenomena except when part of a research project or a museum service. The preparation of maps and survey reports, their printing and cataloguing, are also included.

Statistical surveys are activities directed toward the collecting, processing and disseminating of statistics on humankind, their economic and social activities. Included are the development of technical methodology, statistical analysis and vital statistics.

Information services are all work directed to recording, classifying, translating, and disseminating information resulting from R&D in the social sciences or required in support of such R&D. Included are the operations of specialized libraries and archives, the publication of scholarly journals and bibliographies, and the organizing of scientific conferences. Grants for the publication of scholarly works are also included.

Special services and studies in the natural sciences are activities directed towards the establishment of national and provincial standards for materials, devices, products and processes; the calibration of secondary standards; non-routine quality testing; feasibility studies and demonstration projects.

In the social sciences, special services and studies are systematic investigations carried out in order to provide information needed for planning or policy formulation, including feasibility studies and demonstration projects.

Scientific and technological activities take place in both natural sciences and social sciences and humanities. The natural sciences consist of disciplines concerned with understanding, exploring, developing or utilizing the natural world. The social sciences and humanities embrace all disciplines involving the study of human actions and conditions and the social, economic and institutional mechanisms affecting humans.

Definitions (continues)

Six performing sectors are identified.

Intramural refers to the provincial ministry, department or agency performing a scientific activity.

Business enterprise denotes largely private corporations but also includes crown corporations with a commercial function (e.g., power utilities) and industrial research institutes not controlled by another institution.

The higher education sector covers post secondary educational institutions and affiliated teaching and research facilities.

Hospitals and health organizations are health organizations such as the Heart foundation and hospitals which do not belong in the university sector.

Provincial research organizations include the InNOVAcorp (Nova Scotia), the New Brunswick Research and Productivity Council, le Centre de recherche industriel du Québec, ORTECH Corporation (Ontario), Industrial Technology Centre (Manitoba), the Saskatchewan Research Council and the Nunavut Research Institute.

Other includes the federal government, municipal governments, individuals, institutions not identified with any other sector, and foreign performers.

Departmental personnel are classified into three major categories. Scientific and professional includes persons in a job requiring at least one academic degree or nationally recognized professional qualification. The Technical category includes people in jobs requiring specialized vocational or technical training beyond the secondary level. Other includes clerical, secretarial, administrative, operational and other support personnel. Personnel data are reported in full-time equivalent which is simply the portion of a person's time spent on S&T activities.

The objectives listed in this survey do not represent the total range of possible objectives; however, they are intended to cover the major areas of current technological interest. Respondents are asked to report expenditures under the objective which is primary to that expenditure.

Symbols

The following standard symbols are used in Statistics Canada publications:

. not available for any reference period

.. not available for a specific reference period

... not applicable

0 true zero or a value rounded to zero

0^s value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded

^{p} preliminary

^{r} revised

x suppressed to meet the confidentiality requirements of the *Statistics Act*

^{E} use with caution

F too unreliable to be published

Note of appreciation
Canada owes the success of its statistical system to a long-standing cooperation involving Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

Standard of service to the public
Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner and in the official language of their choice. To this end, the agency has developed standards of service which its employees observe in serving its clients. To obtain a copy of these service standards, please contact Statistics Canada toll free at 1-800-263-1136.

Provincial indicators, 2001

Province	Population[1]	PGDP[2]	GERD[3]	GERD/ PGDP[3]	GERD/ Capita
	(000)	($ 000,000)	($ 000,000)	ratio	Dollars
Newfoundland and Labrador	522	14,196	142	1.0	272
Prince Edward Island	137	3,474	35	1.0	255
Nova Scotia	933	26,070	365	1.4	391
New Brunswick	750	20,772	154	0.7	205
Quebec*	7,397	232,592	6,159	2.6	833
Ontario*	11,898	452,923	10,297	2.3	865
Manitoba	1,151	35,294	453	1.3	394
Saskatchewan	1,000	33,580	391	1.2	391
Alberta	3,057	151,173	1,511	1.0	494
British Columbia	4,078	132,050	1,679	1.3	412
Canada[4]	**31,021**	**1,107,459**	**22,116**	**2.0**	**713**

1. *CANSIM, table 051-0001.*
2. *Canadian Economic Observer, Catalogue no. 11-010-XPB, Monthly, January 2004, table 41, or in CANSIM, table 384-0002.*
3. *Estimates of Canadian Research and Development Expenditures (GERD), Canada, 1992 to 2003, and by province 1992 to 2001, 88F0006XIE02015 No. 003, January 2004, or in CANSIM, table 358-0001.*
4. *Includes Nunavut the Northwest Territories and the Yukon, and the National Capital Region (see note below).*

* *Quebec and Ontario GERD figures exclude federal government expenditures of $926 million performed in the National Capital Region.*

Total budget and scientific expenditures of the federal government and the provincial governments, 2001-2002

Province	Total budget[1]	S&T expenditures	R&D expenditures	S&T as % of total budget	R&D as % of total budget
		($000,000)		%	
Federal government					
Canada	**165,234**	**8,159**	**4,909**	**4.9**	**3.0**
Provincial government					
Quebec[2]	50,309	..	426	..	0.9
Ontario	65,973	684	444	1.0	0.7
Manitoba	6,817	54	19	0.8	0.3
Saskatchewan	5,662	94	72	1.7	1.3
Alberta	19,329	318	246	1.6	1.3
British Columbia	25,102	241	94	1.0	0.4

1. *Taken from Budgetary Estimates of the federal and provincial government.*
2. *Since 1994-95, the province of Quebec collects only R&D activities.*

Total sciences

Table 1.
Total expenditures of provincial governments on scientific activities, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01[r]	2001-02[r]	2002-03[p]
	thousands of dollars								
Quebec[1]	..	..	..	..	..	..	..	..	..
Ontario	425,161	419,980	336,718	314,809	344,778	455,445	619,779	684,382	727,411
Manitoba	47,114	45,825	41,926	39,833	49,082	43,286	52,098	54,185	55,251
Saskatchewan	49,940	49,146	41,832	70,164	75,146	64,040	96,030	93,780	..
Alberta	172,000	168,424	168,846	178,388	214,417	234,592	263,794	317,744	330,222
British Columbia	215,187	232,159	247,787	260,839	249,245	235,686	338,512	240,602	243,269

1. Since 1994-95, the province of Quebec collects only R&D activities.

Table 2.
Total expenditures of provincial governments on R&D, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00[r]	2000-01[r]	2001-02[r]	2002-03[p]
	thousands of dollars								
Quebec	230,543	218,307	216,246	206,676	213,342	454,994	429,399	426,353	412,961
Ontario	250,440	250,863	210,577	210,196	213,553	280,836	421,015	443,513	488,676
Manitoba	11,764	10,608	10,183	7,130	15,087	14,708	17,980	18,695	19,428
Saskatchewan	32,702	31,555	27,908	55,444	56,700	45,941	76,253	71,785	..
Alberta	102,693	101,892	110,484	126,470	157,385	173,218	198,117	245,643	268,013
British Columbia	72,622	77,985	89,274	88,684	72,829	72,674	199,949	93,555	106,103

Table 3.
Personnel of provincial governments engaged in scientific activities, by province, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01[r]	2001-02[r]	2002-03[p]
	full-time equivalent								
Quebec[1]	..	..	..	..	..	..	..	..	..
Ontario	2,842	2,768	2,003	1,863	1,957	2,101	2,366	2,390	2,444
Manitoba	358	364	391	407	416	403	427	440	439
Saskatchewan	281	291	203	213	246	250	253	275	..
Alberta	1,174	1,048	713	768	812	818	815	1,349	1,244
British Columbia	1,719	1,618	1,555	1,513	1,441	1,378	1,216	1,739	1,592

1. Since 1994-95, the province of Quebec collects only R&D activities.

Table 4.
Provincial government scientists and professionals engaged in scientific activities, by province, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01[r]	2001-02[r]	2002-03[p]
	full-time equivalent								
Quebec[1]	..	..	..	..	..	..	..	..	..
Ontario	1,257	1,232	857	814	1,118	1,191	1,307	1,331	1,377
Manitoba	202	204	215	239	250	236	267	280	275
Saskatchewan	166	178	126	134	165	166	172	187	..
Alberta	539	412	329	390	424	373	384	600	512
British Columbia	889	827	787	733	690	657	660	665	601

1. Since 1994-95, the province of Quebec collects only R&D activities.

Table 5.
Personnel of provincial governments engaged in R&D, by province, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00[r]	2000-01	2001-02[r]	2002-03[p]
	full-time equivalent[1]								
Quebec	925	806	793	755	666	486	605	598	724
Ontario	987	976	613	567	575	659	688	891	936
Manitoba	21	13	12	27	27	36	41	36	41
Saskatchewan	72	78	52	56	49	52	52	52	..
Alberta	401	337	247	284	299	287	300	843	844
British Columbia	384	270	320	310	302	307	325	282	242

1. Including Administration of Extramural R&D Programs Personnel.

Table 6.
Provincial government scientists and professionals engaged in R&D, by province, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00[r]	2000-01[r]	2001-02[r]	2002-03[p]
	full-time equivalent[1]								
Quebec	394	354	340	329	290	263	336	328	379
Ontario	506	493	393	357	385	396	412	520	544
Manitoba	17	12	10	19	20	22	33	28	31
Saskatchewan	37	46	36	40	34	34	38	41	..
Alberta	224	169	141	152	167	120	127	322	307
British Columbia	230	159	196	166	167	172	178	148	131

1. Including Administration of Extramural R&D Programs Personnel.

Table 7.
Total expenditures of provincial governments scientific activities, by sector of performance, 2002-03

Province	Intramural	Business enterprises	Higher education	Hospital and health organizations	Provincial research organizations	Other	**Total**
				thousands of dollars			
Quebec[1]	..	..	..	..	..	..	**..**
Ontario	221,241	20,264	315,422	94,111	...	76,373	**727,411**
Manitoba	34,148	771	10,552	5,767	750	3,263	**55,251**
Saskatchewan	..	..	..	..	..	..	**..**
Alberta	157,531	27,558	118,791	7,492	...	18,850	**330,222**
British Columbia	141,539	23,069	65,220	8,006	...	5,435	**243,269**

1. Since 1994-95, the province of Quebec collects only R&D activities.

Table 8.
Total expenditures of provincial governments on R&D, by sector of performance, 2002-03

Province	Intramural	Business enterprises	Higher education	Hospital and health organizations	Provincial research organizations	Other	**Total**
				thousands of dollars			
Quebec	65,213	26,386	236,520	48,354	260	36,227	**412,960**
Ontario	78,356	13,303	290,092	84,615	...	22,310	**488,676**
Manitoba	2,518	516	10,345	3,900	750	1,399	**19,428**
Saskatchewan	..	..	..	..	..	..	**..**
Alberta	120,207	10,153	116,976	5,402	...	15,275	**268,013**
British Columbia	18,443	13,682	61,788	7,571	...	4,619	**106,103**

Table 9.
Personnel of provincial governments engaged in scientific activities, by activity and category, 2002-03

Activity / category	Quebec[1]	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
			full-time equivalent			
Research and development:						
Scientific and professional	269	504	27	..	265	112
Technical	202	276	4	..	300	70
Other	55	89	6	..	194	20
Sub-total	*526*	*869*	*37*	..	*759*	*202*
Administration of extramural programs for R&D:						
Scientific and professional	..	40	4	..	42	19
Technical	..	8	0	..	10	10
Other	..	19	0	..	34	11
Sub-total	..	*67*	*4*	..	*86*	*40*
Related scientific activities:						
Scientific and professional	110	783	239	..	136	401
Technical	43	357	98	..	155	409
Other	45	280	55	..	22	184
Sub-total	*198*	*1,420*	*392*	..	*313*	*994*
Administration of extramural programs for RSA:						
Scientific and professional	..	50	5	..	69	69
Technical	..	2	0	..	16	67
Other	..	36	1	..	1	220
Sub-total	..	*88*	*6*	..	*86*	356
Total scientific activities:						
Scientific and professional	379	1,337	275	..	512	601
Technical	245	643	102	..	481	556
Other	100	424	62	..	251	435
Sub-total	*724*	*2,444*	*439*	..	*1,244*	*1,592*
Total	**724**	**2,444**	**439**	..	**1,244**	**1,592**

1. *Since 1994-95, the province of Quebec collects only R&D activities.*

Table 10.
Total expenditures of the Ontario government on scientific activities, by objective, 1999-00 to 2002-03

Objective	1999-00	2000-01	2001-02[r]	2002-03[p]
		thousands of dollars		
Exploration and utilization of the earth	30,441	29,238	32,088	23,215
Infrastructure and general planning of land use:				
Transportation systems	3,845	4,332	3,850	4,500
Telecommunications	19,956	12,961	4,526	5,826
Other	1,175	1,116	2,893	4,238
Pollution, conservation and protection of the environment	43,219	50,266	62,083	64,790
Public health	86,613	123,734	134,549	139,710
Production, distribution and rational utilization of energy	1,758	2,543	350	254
Agriculture production and technology	42,749	48,887	51,572	53,476
Fishing	3,970	6,846	6,270	5,835
Forestry	17,038	13,197	12,334	13,940
Industrial production and technology	30,213	47,690	59,788	53,765
Social development	68,713	48,473	48,687	58,502
Exploration and exploitation of space	1,405	1,667	1,209	2,510
Basic research	101,571	223,434	259,648	278,630
Other civil research	2,779	5,395	4,535	18,220
Total	**455,445**	**619,779**	**684,382**	**727,411**

Table 11.
Total expenditures of the Manitoba government on scientific activities, by objective, 1999-00 to 2002-03

Objective	1999-00	2000-01	2001-02[r]	2002-03[p]
		thousands of dollars		
Exploration and utilization of the earth	4,670	4,320	6,002	6,538
Infrastructure and general planning of land use:				
Transportation systems	2,266	2,579	2,494	2,663
Telecommunications	100	0	0	0
Other	0	0	0	0
Pollution, conservation and protection of the environment	847	1,383	1,548	1,548
Public health	4,743	9,145	9,173	9,083
Production, distribution and rational utilization of energy	41	43	49	45
Agriculture production and technology	3,344	4,172	5,350	3,341
Fishing	1,390	1,435	1,451	1,455
Forestry	1,134	1,712	1,660	1,696
Industrial production and technology	12,350	2,444	2,542	3,243
Social development	12,173	17,775	16,782	17,878
Exploration and exploitation of space	0	0	0	0
Basic research	195	7,035	7,068	7,677
Other civil research	33	55	66	84
Total	**43,286**	**52,098**	**54,185**	**55,251**

Table 12.
Total expenditures of the Saskatchewan government on scientific activities, by objective, 1999-00 to 2002-03

Objective	1999-00[r]	2000-01	2001-02[r]	2002-03[p]
		thousands of dollars		
Exploration and utilization of the earth	0	3,139	3,669	..
Infrastructure and general planning of land use:				
Transportation systems	421	1,939	1,821	..
Telecommunications	327	1,072	640	..
Other	0	999	1,271	..
Pollution, conservation and protection of the environment	3,408	4,239	5,796	..
Public health	11,341	10,272	11,238	..
Production, distribution and rational utilization of energy	2,045	1,100	1,216	..
Agriculture production and technology	26,555	28,254	30,016	..
Fishing	608	101	101	..
Forestry	2,246	640	955	..
Industrial production and technology	8,800	3,517	3,773	..
Social development	7,221	10,290	9,925	..
Exploration and exploitation of space	0	0	0	..
Basic research	568	30,463	23,359	..
Other civil research	500	5	0	..
Total	**64,040**	**96,030**	**93,780**	**..**

Table 13.
Total expenditures of the Alberta government on scientific activities, by objective, 1999-00 to 2002-03

Objective	1999-00	2000-01[r]	2001-02[r]	2002-03[p]
		thousands of dollars		
Exploration and utilization of the earth	1,803	5,345	4,749	2,811
Infrastructure and general planning of land use:				
Transportation systems	7,026	8,052	9,688	8,738
Telecommunications	1,943	0	0	0
Other	2,708	5,163	2,530	2,219
Pollution, conservation and protection of the environment	25,020	18,681	37,722	32,860
Public health	81,500	71,353	92,412	94,694
Production, distribution and rational utilization of energy	8,989	7,113	23,805	24,958
Agriculture production and technology	43,777	42,050	56,829	59,175
Fishing	0	0	0	0
Forestry	0	4,289	16,773	18,421
Industrial production and technology	600	9	11,200	16,056
Social development	8,720	10,820	12,329	8,906
Exploration and exploitation of space	0	0	0	0
Basic research	48,822	84,722	48,941	61,295
Other civil research	3,684	6,197	766	89
Total	**234,592**	**263,794**	**317,744**	**330,222**

Table 14.
Total expenditures of the British Columbia government on scientific activities, by objective, 1999-00 to 2002-03

Objective	1999-00	2000-01[r]	2001-02[r]	2002-03[p]
		thousands of dollars		
Exploration and utilization of the earth	5,677	5,831	4,454	3,079
Infrastructure and general planning of land use:				
Transportation systems	865	532	655	630
Telecommunications	873	4,660	4,621	4,331
Other	15	25	79,387	68,540
Pollution, conservation and protection of the environment	40,693	34,999	15,225	14,000
Public health	27,795	124,703	20,299	19,952
Production, distribution and rational utilization of energy	338	1,002	0	0
Agriculture production and technology	1,371	1,513	1,828	1,816
Fishing	5,097	4,649	4,435	3,927
Forestry	77,439	72,267	30,171	18,485
Industrial production and technology	22,835	20,716	6,091	4,932
Social development	44,285	32,549	17,892	21,345
Exploration and exploitation of space	0	0	0	64
Basic research	4,800	30,304	52,086	78,812
Other civil research	3,603	4,763	3,458	3,356
Total	**235,686**	**338,512**	**240,602**	**243,269**

Table 15.
Total expenditures of the Ontario government on R&D, by objective, 1999-00 to 2002-03

Objective	1999-00	2000-01	2001-02[r]	2002-03[p]
		thousands of dollars		
Exploration and utilization of the earth	2,468	1,570	1,978	2,533
Infrastructure and general planning of land use:				
Transportation systems	1,315	1,710	728	1,056
Telecommunications	17,882	12,016	4,079	5,358
Other	500	0	0	0
Pollution, conservation and protection of the environment	2,587	6,180	4,884	5,016
Public health	78,382	104,618	102,761	111,713
Production, distribution and rational utilization of energy	234	1,819	170	102
Agriculture production and technology	35,489	37,603	41,049	42,992
Fishing	3,970	6,761	6,070	5,620
Forestry	14,154	11,293	10,444	11,892
Industrial production and technology	21,597	41,236	52,869	46,724
Social development	12,511	10,993	8,919	12,176
Exploration and exploitation of space	1,014	1,427	946	2,247
Basic research	86,848	182,706	208,229	233,728
Other civil research	1,885	1,083	387	7,519
Total	**280,836**	**421,015**	**443,513**	**488,676**

Table 16.
Total expenditures of the Manitoba government on R&D, by objective, 1999-00 to 2002-03

Objective	1999-00	2000-01	2001-02[r]	2002-03[p]
		thousands of dollars		
Exploration and utilization of the earth	29	0	34	34
Infrastructure and general planning of land use:				
Transportation systems	62	62	62	62
Telecommunications	0	0	0	0
Other	0	0	0	0
Pollution, conservation and protection of the environment	0	0	0	0
Public health	2,843	7,193	7,221	7,131
Production, distribution and rational utilization of energy	0	0	0	0
Agriculture production and technology	1,052	1,280	2,002	1,092
Fishing	0	14	0	0
Forestry	452	361	285	280
Industrial production and technology	9,848	1,399	1,585	2,212
Social development	227	636	680	970
Exploration and exploitation of space	0	0	0	0
Basic research	195	7,035	6,826	7,647
Other civil research	0	0	0	0
Total	**14,708**	**17,980**	**18,695**	**19,428**

Table 17.
Total expenditures of the Saskatchewan government on R&D, by objective, 1999-00 to 2002-03

Objective	1999-00[r]	2000-01	2001-02[r]	2002-03[p]
		thousands of dollars		
Exploration and utilization of the earth	0	1,723	1,649	..
Infrastructure and general planning of land use:				
Transportation systems	421	1,781	1,671	..
Telecommunications	250	846	480	..
Other	0	0	0	..
Pollution, conservation and protection of the environment	1,678	2,502	3,041	..
Public health	8,675	8,155	9,085	..
Production, distribution and rational utilization of energy	2,021	839	869	..
Agriculture production and technology	25,618	26,975	28,290	..
Fishing	300	0	0	..
Forestry	540	0	400	..
Industrial production and technology	5,392	3,149	3,067	..
Social development	0	52	55	..
Exploration and exploitation of space	0	0	0	..
Basic research	568	30,226	23,178	..
Other civil research	478	5	0	..
Total	**45,941**	**76,253**	**71,785**	..

Table 18.
Total expenditures of the Alberta government on R&D, by objective, 1999-00 to 2002-03

Objective	1999-00	2000-01	2001-02[r]	2002-03[p]
		thousands of dollars		
Exploration and utilization of the earth	1,803	0	9	0
Infrastructure and general planning of land use:				
Transportation systems	1,519	1,587	1,392	2,537
Telecommunications	1,943	0	0	0
Other	108	469	363	50
Pollution, conservation and protection of the environment	3,310	3,241	22,960	18,114
Public health	75,986	65,921	76,791	83,001
Production, distribution and rational utilization of energy	8,989	7,113	23,721	24,958
Agriculture production and technology	29,743	28,329	42,948	45,274
Fishing	0	0	0	0
Forestry	0	3,192	13,808	15,057
Industrial production and technology	600	9	10,981	15,833
Social development	320	3,317	4,537	1,970
Exploration and exploitation of space	0	0	0	0
Basic research	48,697	84,652	47,974	61,130
Other civil research	200	287	159	89
Total	**173,218**	**198,117**	**245,643**	**268,013**

Table 19.
Total expenditures of the British Columbia government on R&D, by objective, 1999-00 to 2002-03

Objective	1999-00	2000-01[r]	2001-02[r]	2002-03[p]
		thousands of dollars		
Exploration and utilization of the earth	812	544	0	0
Infrastructure and general planning of land use:				
Transportation systems	0	38	0	0
Telecommunications	550	4,100	2,281	2,281
Other	5	25	0	0
Pollution, conservation and protection of the environment	3,864	3,140	3,100	3,000
Public health	8,176	114,720	6,040	6,101
Production, distribution and rational utilization of energy	327	992	0	0
Agriculture production and technology	713	884	1,379	1,367
Fishing	3,510	3,240	3,010	2,542
Forestry	33,817	31,539	29,261	17,813
Industrial production and technology	8,695	5,397	1,398	664
Social development	4,659	9,363	1,198	1,425
Exploration and exploitation of space	0	0	0	64
Basic research	4,743	22,498	43,375	69,917
Other civil research	2,803	3,469	2,513	929
Total	**72,674**	**199,949**	**93,555**	**106,103**

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Natural sciences and engineering

Table 20.
Total expenditures of provincial governments on scientific activities in the natural sciences and engineering, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01[r]	2001-02[r]	2002-03[p]
	thousands of dollars								
Quebec[1]	..	..	..	..	..	..	..	..	..
Ontario	308,661	309,494	243,370	241,142	259,321	342,756	462,904	524,230	547,804
Manitoba	28,468	28,396	27,265	22,657	31,268	27,394	31,010	34,053	33,865
Saskatchewan	37,865	36,483	31,747	58,912	60,649	48,945	80,629	77,779	..
Alberta	153,343	156,114	157,212	164,917	202,152	219,770	249,333	292,842	312,080
British Columbia	158,774	180,046	196,079	199,575	190,577	166,366	280,761	202,445	204,925

1. Since 1994-95, the province of Quebec collects only R&D activities.

Table 21.
Intramural expenditures of provincial governments on scientific activities in the natural sciences and engineering, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02[r]	2002-03[p]
	thousands of dollars								
Quebec[1]	..	..	..	..	..	..	..	..	..
Ontario	140,094	140,042	109,790	97,145	105,481	133,812	133,403	152,938	147,847
Manitoba	12,657	12,515	14,157	13,073	13,933	12,700	14,281	15,177	16,045
Saskatchewan	7,854	8,182	6,741	7,282	8,426	8,016	9,092	10,388	..
Alberta	59,737	71,859	57,983	49,432	52,885	58,841	60,020	150,807	155,450
British Columbia	83,643	81,915	87,258	112,791	92,163	70,451	69,395	128,311	111,648

1. Since 1994-95, the province of Quebec collects only R&D activities.

Table 22.
Payments to business enterprises by provincial governments on scientific activities in the natural sciences and engineering, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02[r]	2002-03[p]
	thousands of dollars								
Quebec[1]	..	..	..	..	..	..	..	..	..
Ontario	32,755	32,793	11,936	12,079	7,401	6,428	2,184	27,786	12,156
Manitoba	4,358	4,341	4,978	2,477	2,304	288	653	1,629	153
Saskatchewan	11,840	10,424	2,357	3,641	8,263	5,992	5,297	6,919	..
Alberta	16,045	11,503	9,932	15,841	26,242	16,552	21,794	21,516	18,157
British Columbia	52,174	68,836	74,198	56,499	72,402	71,762	63,064	38,574	20,128

1. Since 1994-95, the province of Quebec collects only R&D activities.

Table 23.
Payments to the higher education sector by provincial governments on scientific activities in the natural sciences and engineering, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02[r]	2002-03[p]
	thousands of dollars								
Quebec[1]	..	..	..	..	..	..	..	..	..
Ontario	115,635	115,376	101,748	111,635	118,384	165,622	271,229	279,313	285,551
Manitoba	2,950	2,414	2,354	2,897	5,936	7,853	9,390	9,314	9,896
Saskatchewan	8,945	9,312	10,247	16,505	17,690	16,851	42,105	35,295	..
Alberta	28,959	27,244	45,974	55,486	72,634	91,799	101,021	99,749	116,830
British Columbia	12,031	18,584	21,230	22,989	19,148	19,943	34,406	27,431	62,524

1. *Since 1994-95, the province of Quebec collects only R&D activities.*

Table 24.
Payments to other performers[1] by provincial governments on scientific activities in the natural sciences and engineering, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02[r]	2002-03[p]
	thousands of dollars								
Quebec[2]	..	..	..	..	..	..	..	..	..
Ontario	2,543	4,273	5,718	3,531	8,226	11,684	19,851	22,770	26,096
Manitoba	2,061	1,638	1,624	1,653	2,156	1,307	1,662	3,111	3,104
Saskatchewan	4,017	2,910	2,438	21,558	17,094	9,008	14,208	15,166	..
Alberta	14,882	21,158	8,011	10,424	14,444	9,136	18,089	12,339	15,866
British Columbia	9,485	10,539	13,143	6,967	6,824	3,920	2,527	4,042	2,669

1. *Other performers include the federal government, municipal governments, individuals, institutions not included with any other sector, and foreign performers.*
2. *Since 1994-95, the province of Quebec collects only R&D activities.*

Table 25.
Total expenditures of provincial governments on R&D in the natural sciences and engineering, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00[r]	2000-01[r]	2001-02[r]	2002-03[p]
	thousands of dollars								
Quebec	184,223	171,187	167,934	156,645	149,787	372,682	323,267	339,779	301,518
Ontario	210,148	212,252	176,840	181,163	186,070	235,049	350,567	402,306	434,084
Manitoba	9,709	9,422	9,571	6,374	14,424	14,192	16,934	17,380	17,769
Saskatchewan	30,046	28,808	25,449	52,400	52,900	41,902	72,750	68,304	..
Alberta	101,826	101,419	110,086	125,870	156,815	172,598	193,558	240,482	264,517
British Columbia	69,568	74,612	86,477	85,377	69,152	69,663	189,863	87,718	102,646

Table 26.
Intramural expenditures of provincial governments on R&D in the natural sciences and engineering, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00[r]	2000-01[r]	2001-02[r]	2002-03[p]
	thousands of dollars								
Newfoundland and Labrador	4,000	4,000	4,000	4,000	4,000	5,000	5,000	5,000	5,000
Nova Scotia	5,000	5,000	5,000	5,000	5,000	6,000	6,000	6,000	6,000
New Brunswick	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Quebec	42,822	39,602	39,287	37,436	35,546	32,041	34,242	40,750	48,775
Ontario	65,308	66,732	49,119	41,299	43,183	58,839	65,014	70,952	74,625
Manitoba	716	529	436	1,078	1,212	1,560	1,890	1,772	1,842
Saskatchewan	3,416	3,835	3,002	3,233	2,885	2,771	2,980	3,263	..
Alberta	25,028	25,301	18,439	18,529	21,513	26,077	28,894	113,273	119,860
British Columbia	28,127	21,054	25,294	27,239	23,729	25,814	25,155	21,857	18,228

Table 27.
Payments to business enterprises by provincial governments on R&D in the natural sciences and engineering, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01[r]	2001-02[r]	2002-03[p]
	thousands of dollars								
Quebec	29,341	24,192	18,713	14,672	13,138	27,082	22,105	23,295	25,948
Ontario	17,631	18,214	11,247	11,168	6,225	4,520	1,527	25,960	10,096
Manitoba	4,270	4,103	3,487	615	447	87	62	587	99
Saskatchewan	9,622	8,244	908	2,241	6,637	4,423	4,305	5,631	..
Alberta	6,835	5,305	5,565	10,705	19,777	5,702	7,741	9,673	9,036
British Columbia	22,496	28,973	31,593	30,627	26,427	23,357	19,438	32,390	13,540

Table 28.
Payments to the higher education sector by provincial governments on R&D in the natural sciences and engineering, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00[r]	2000-01[r]	2001-02[r]	2002-03[p]
	thousands of dollars								
Quebec	68,884	63,680	59,451	56,216	50,896	122,809	145,018	227,400	176,433
Ontario	108,506	108,450	101,558	111,613	115,419	144,607	247,947	258,457	264,301
Manitoba	2,950	2,389	2,354	2,897	5,934	7,853	9,390	9,142	9,789
Saskatchewan	8,502	8,872	9,751	15,975	17,372	16,841	41,936	34,995	..
Alberta	28,475	27,056	45,807	55,404	68,922	91,369	101,019	99,696	116,764
British Columbia	10,275	17,016	20,023	21,707	17,493	18,125	32,394	25,756	60,753

Table 29.
Payments to other performers[1] by provincial governments on R&D in the natural sciences and engineering, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00[r]	2000-01[r]	2001-02[r]	2002-03[p]
	thousands of dollars								
Quebec	6,147	7,004	11,671	11,327	12,328	111,612	60,973	316,255	33,605
Ontario	1,585	2,180	938	621	1,414	4,272	2,435	7,792	10,888
Manitoba	738	278	185	261	779	333	568	1,057	1,389
Saskatchewan	3,382	2,288	1,874	21,075	16,830	8,789	13,602	14,410	..
Alberta	12,919	19,916	6,359	8,711	11,824	6,983	16,130	9,792	13,455
British Columbia	7,248	7,423	9,317	5,519	1,503	2,367	1,846	3,963	2,604

1. *Other performers include the federal government, municipal governments, individuals, institutions not included with any other sector, and foreign performers.*

Table 30.
Personnel of provincial governments engaged in scientific activities in the natural sciences and engineering, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01[r]	2001-02[r]	2002-03[p]
	full-time equivalent								
Quebec[1]	..	..	..	..	..	..	..	..	..
Ontario	1,715	1,723	1,288	1,209	1,256	1,408	1,622	1,663	1,699
Manitoba	209	209	214	192	195	196	210	218	223
Saskatchewan	150	158	107	110	121	125	127	143	..
Alberta	957	926	611	664	705	675	766	1,304	1,199
British Columbia	1,129	1,045	1,023	943	895	853	790	1,471	1,347

1. *Since 1994-95, the province of Quebec collects only R&D activities.*

Table 31.
Personnel of provincial governments engaged in R&D in the natural sciences and engineering, 1994-95 to 2002-03

Province	1994-95[r]	1995-96[r]	1996-97[r]	1997-98[r]	1998-99[r]	1999-00[r]	2000-01	2001-02[r]	2002-03[p]
	full-time equivalent[1]								
Quebec	795	677	634	606	558	386	434	438	524
Ontario	800	817	500	479	461	607	633	850	895
Manitoba	19	11	9	22	22	30	29	26	28
Saskatchewan	119	131	75	79	76	82	78	80	..
Alberta	383	336	246	283	299	287	299	837	836
British Columbia	363	260	311	298	295	300	319	276	237

1. *Excluding administration of extramural of R&D programs personnel.*

Table 32.
Total expenditures of provincial governments on scientific activities in the natural sciences and engineering, by activity, 2002-03

Activity	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
			thousands of dollars		
Research and development:					
Current expenditures					
In-house	62,266	1,632	..	105,903	14,709
Contracts	65,241	22	..	2,892	4,932
Grants	294,195	15,177	..	137,551	77,675
Research fellowships	1,753	800	..	5,476	2,193
Administration of extramural R&D programs	6,849	198	..	9,695	2,684
Sub-total	*430,304*	*17,769*	..	*261,517*	*102,193*
Capital expenditures	3,780	0	..	3,000	453
Total R&D	**434,084**	**17,769**	..	**264,517**	**102,646**
Related scientific activities:					
Current expenditures					
Education support	13,767	29	..	50	412
Technical surveys	44,595	9,573	..	23,125	29,160
Information services	20,427	356	..	9,887	59,598
Special services and studies	16,128	5,698	..	11,047	3,372
Museum services	9,046	400	..	2,850	7,930
Administration of extramural RSA programs	8,502	30	..	494	1,757
Sub-total	*112,465*	*16,086*	..	*47,453*	*102,229*
Capital expenditures	1,255	10	..	110	50
Total RSA	**113,720**	**16,086**	..	**47,563**	**102,279**
Total	**547,804**	**33,865**	..	**312,080**	**204,925**

Table 33.
Total expenditures of provincial governments on scientific activities in the natural sciences and engineering, by sector of performance, 2002-03

Province	Intramural	Business enterprises	Higher education	Hospital and health organizations	Provincial research organizations	Other	Total
				thousands of dollars			
Quebec[1]	..	..	..	..	..	..	..
Ontario	147,847	12,156	285,551	76,154	...	26,096	**547,804**
Manitoba	16,045	153	9,896	3,917	750	3,104	**33,865**
Saskatchewan	..	..	..	..	..	..	..
Alberta	155,450	18,157	116,830	5,777	...	15,866	**312,080**
British Columbia	111,648	20,128	62,524	7,956	...	2,669	**204,925**

1. *Since 1994-95, the province of Quebec collects only R&D activities.*

Table 34.
Total expenditures of provincial governments on R&D, in the natural sciences and engineering, by sector of performance, 2002-03

Province	Intramural	Business enterprises	Higher education	Hospital and health organizations	Provincial research organizations	Other	Total
				thousands of dollars			
Quebec	48,775	25,943	176,433	16,557	200	33,605	**301,518**
Ontario	74,625	10,096	264,301	74,174	...	10,888	**434,084**
Manitoba	1,842	99	9,789	3,900	750	1,389	**17,769**
Saskatchewan	..	..	..	..	..	..	..
Alberta	119,860	9,036	116,764	5,402	...	13,455	**264,517**
British Columbia	18,228	13,540	60,753	7,521	...	2,604	**102,646**

Table 35.
Personnel of provincial governments engaged in scientific activities in the natural sciences and engineering, by activity and category, 2002-03

Activity / category	Quebec[1]	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
			full-time equivalent			
Research and development:						
Scientific and professional	269	476	16	..	260	109
Technical	202	274	4	..	300	69
Other	55	87	5	..	194	20
Sub-total	*526*	*837*	*25*	..	*754*	*198*
Administration of extramural programs for R&D:						
Scientific and professional	110	36	3	..	40	18
Technical	43	7	0	..	10	10
Other	45	15	0	..	32	11
Sub-total	*198*	*58*	*3*	..	*82*	*39*
Related scientific activities:						
Scientific and professional	..	462	88	..	118	320
Technical	..	250	88	..	155	377
Other	..	27	18	..	20	60
Sub-total	..	*739*	*194*	..	*293*	*757*
Administration of extramural programs for RSA:						
Scientific and professional	..	34	1	..	54	66
Technical	..	1	0	..	16	67
Other	..	30	0	..	1	220
Sub-total	..	*65*	*1*	..	*71*	*353*
Total scientific activities:						
Scientific and professional	379	1,008	108	..	472	513
Technical	245	532	92	..	481	523
Other	100	159	23	..	247	311
Sub-total	*724*	*1,699*	*223*	..	*1,199*	*1,347*
Total	**724**	**1,699**	**223**	..	**1,199**	**1,347**

1. Since 1994-95, the province of Quebec collects only R&D activities.

Table 36.
Total expenditures of provincial governments on scientific activities in the natural sciences and engineering, by objective, 2002-03

Objective	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
			thousands of dollars		
Exploration and utilization of the earth	23,215	6,538	..	2,811	3,079
Infrastructure and general planning of land use:					
Transportation systems	3,419	2,663	..	8,738	630
Telecommunications	5,800	0	..	0	4,331
Other	1,687	0	..	1,764	68,540
Pollution, conservation and protection of the environment	60,228	1,514	..	32,195	14,000
Public health	77,920	6,766	..	83,966	5,351
Production, distribution and rational utilization of energy	254	0	..	24,958	0
Agriculture production and technology	53,450	3,018	..	59,175	1,816
Fishing	5,835	1,455	..	0	3,927
Forestry	13,914	1,696	..	18,421	18,485
Industrial production and technology	52,285	2,267	..	16,056	3,618
Social development	4,431	400	..	2,700	1,747
Exploration and exploitation of space	2,510	0	..	0	64
Basic research	235,209	7,548	..	61,246	77,479
Other civil research	7,647	0	..	50	1,858
Total	**547,804**	**33,865**	**..**	**312,080**	**204,925**

Table 37.
Total expenditures of provincial governments on R&D in the natural sciences and engineering, by objective, 2002-03

Objective	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
			thousands of dollars		
Exploration and utilization of the earth	2,533	34	..	0	0
Infrastructure and general planning of land use:					
Transportation systems	432	62	..	2,537	0
Telecommunications	5,358	0	..	0	2,281
Other	0	0	..	50	0
Pollution, conservation and protection of the Environment	5,016	0	..	17,699	3,000
Public health	75,046	6,664	..	81,929	4,146
Production, distribution and rational utilization of energy	102	0	..	24,958	0
Agriculture production and technology	42,992	969	..	45,274	1,367
Fishing	5,620	0	..	0	2,542
Forestry	11,892	280	..	15,057	17,813
Industrial production and technology	46,724	2,212	..	15,833	664
Social development	0	0	..	0	1,000
Exploration and exploitation of space	2,247	0	..	0	64
Basic research	228,738	7,548	..	61,130	68,840
Other civil research	7,384	0	..	50	929
Total	**434,084**	**17,769**	**..**	**264,517**	**102,646**

Social sciences and humanities

Table 38.
Total expenditures of provincial governments on scientific activities in the social sciences and humanities, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02[r]	2002-03[p]
	thousands of dollars								
Quebec[1]	..	..	..	..	..	..	..	..	..
Ontario	116,500	110,486	93,348	73,667	85,457	112,689	156,875	160,152	179,607
Manitoba	18,646	17,429	14,661	17,176	17,814	15,892	21,088	20,132	21,386
Saskatchewan	12,075	12,663	10,085	11,252	14,497	15,095	15,401	16,001	..
Alberta	18,657	12,310	11,634	13,471	12,265	14,822	14,461	24,902	18,142
British Columbia	56,413	52,113	51,708	61,264	58,668	69,320	57,752	38,157	38,344

1. Since 1994-95, the province of Quebec collects only R&D activities.

Table 39.
Intramural expenditures of provincial governments on scientific activities in the social sciences and humanities, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02[r]	2002-03[p]
	thousands of dollars								
Quebec[1]	..	..	..	..	..	..	..	..	..
Ontario	71,237	66,001	50,048	46,413	50,903	50,993	57,405	73,221	73,394
Manitoba	9,296	9,859	11,732	13,799	14,491	13,050	18,338	16,949	18,103
Saskatchewan	8,370	8,850	6,185	6,772	9,377	9,316	9,200	9,457	..
Alberta	14,252	8,230	7,384	7,551	7,908	9,185	3,741	1,811	2,081
British Columbia	43,521	43,058	40,895	41,720	43,133	50,339	41,002	25,763	29,891

1. Since 1994-95, the province of Quebec collects only R&D activities.

Table 40.
Total expenditures of provincial governments on R&D in the social sciences and humanities, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00[r]	2000-01[r]	2001-02[r]	2002-03[p]
	thousands of dollars								
Quebec	46,320	47,120	48,312	50,031	63,555	83,312	106,132	86,574	111,443
Ontario	40,292	38,611	33,737	29,033	27,483	45,787	70,448	41,207	54,592
Manitoba	2,055	1,186	612	756	663	516	1,046	1,315	1,659
Saskatchewan	2,656	2,747	2,459	3,044	3,800	4,039	3,503	3,481	..
Alberta	867	473	398	600	570	620	4,559	5,161	3,496
British Columbia	3,054	3,373	2,797	3,307	3,677	3,011	10,086	5,837	3,457

Table 41.
Personnel of provincial governments engaged in scientific activities in the social science and humanities, 1994-95 to 2002-03

Province	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02[r]	2002-03[p]
	full-time equivalent								
Quebec[1]	..	..	..	..	..	..	..	..	..
Ontario	1,127	1,045	715	654	701	694	744	727	744
Manitoba	149	155	177	215	221	206	217	222	216
Saskatchewan	131	133	96	103	125	125	126	132	..
Alberta	217	122	102	104	107	143	49	45	45
British Columbia	590	573	532	570	546	525	426	268	245

1. *Since 1994-95, the province of Quebec collects only R&D activities.*

Table 42.
Total expenditures of provincial governments on scientific activities in the social sciences and humanities, by activity, 2002-03

Activity	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
			thousands of dollars		
Research and development:					
Current expenditures					
In-house	1,952	649	..	0	187
Contracts	42,178	485	..	2,715	177
Grants	9,044	323	..	452	1,800
Research fellowships	165	200	..	0	1,265
Administration of extramural R&D programs	1,253	0	..	329	28
Sub-total	*54,592*	*1,657*	..	*3,496*	*3,457*
Capital expenditures	0	2	..	0	0
Total R&D	**54,592**	**1,659**	..	**3,496**	**3,457**
Related scientific activities:					
Current expenditures	117,010	19,633	..	13,940	31,282
Administration of extramural RSA programs	1,063	45	..	706	366
Sub-total	*118,073*	*19,678*	..	*14,646*	*31,648*
Capital expenditures	6,942	49	..	0	3,239
Total RSA	**125,015**	**19,727**	..	**14,646**	**34,887**
Total	**179,607**	**21,386**	..	**18,142**	**38,344**

Table 43.
Total expenditures of provincial governments on scientific activities in the social sciences and humanities, by sector of performance, 2002-03

Province	Intramural	Business enterprises	Higher education	Hospital and health organizations	Provincial research organizations	Other	Total
				thousands of dollars			
Quebec[1]	..	..	..	..	..	..	..
Ontario	73,394	8,108	29,871	17,957	...	50,277	**179,607**
Manitoba	18,103	618	656	1,850	0	159	**21,386**
Saskatchewan	..	..	..	..	..	..	..
Alberta	2,081	9,401	1,961	1,715	...	2,984	**18,142**
British Columbia	29,891	2,941	2,696	50	...	2,766	**38,344**

1. *Since 1994-95, the province of Quebec collects only R&D activities.*

Table 44.
Total expenditures of provincial governments on R&D in the social sciences and humanities, by sector of performance, 2002-03

Province	Intramural	Business enterprises	Higher education	Hospital and health organizations	Provincial research organizations	Other	Total
				thousands of dollars			
Quebec	16,438	438	60,087	31,798	60	2,622	**111,443**
Ontario	3,731	3,207	25,791	10,441	...	11,422	**54,592**
Manitoba	676	417	556	0	0	10	**1,659**
Saskatchewan	..	..	..	..	..	..	..
Alberta	347	1,117	212	0	...	1,820	**3,496**
British Columbia	215	142	1,035	50	...	2,015	**3,457**

Table 45.
Personnel of provincial governments engaged in scientific activities in the social sciences and humanities, by activity and category, 2002-03

Activity / category	Quebec[1]	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
			full-time equivalent			
Research and development:						
Scientific and professional	113	28	11	..	5	3
Technical	22	2	0	..	0	1
Other	17	1	1	..	0	0
Sub-total	*152*	*31*	*12*	..	*5*	*4*
Administration of extramural programs for R&D:						
Scientific and professional	31	4	1	..	2	1
Technical	8	1	0	..	0	0
Other	9	5	0	..	2	0
Sub-total	*48*	*10*	*1*	..	*4*	*1*
Related scientific activities:						
Scientific and professional	..	321	151	..	18	81
Technical	..	107	10	..	0	32
Other	..	253	37	..	2	124
Sub-total	..	*681*	*198*	..	*20*	*237*
Administration of extramural Programs for RSA:						
Scientific and professional	..	16	4	..	15	3
Technical	..	1	0	..	1	0
Other	..	6	1	..	1	0
Sub-total	..	*23*	*5*	..	*17*	*3*
Total scientific activities:						
Scientific and professional	144	369	167	..	39	88
Technical	30	111	10	..	1	33
Other	26	265	39	..	5	124
Sub-total	200	745	216	..	45	245
Total	**200**	**745**	**216**	..	**45**	**245**

1. Since 1994-95, the province of Quebec collects only R&D activities.

Table 46.
Total expenditures of provincial governments on scientific activities in the social sciences and humanities, by objective, 2002-03

Objective	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
			thousands of dollars		
Exploration and utilization of the earth	0	0	..	0	0
Infrastructure and general planning of land use:					
Transportation systems	1,081	0	..	0	0
Telecommunications	26	0	..	0	0
Other	2,551	0	..	455	0
Pollution, conservation and protection of the environment	4,562	34	..	665	0
Public health	61,790	2,317	..	10,728	14,604
Production, distribution and rational utilization of energy	0	45	..	0	0
Agriculture production and technology	26	323	..	0	0
Fishing	0	0	..	0	0
Forestry	1,480	0	..	0	0
Industrial production and technology	54,071	976	..	0	1,314
Social development	0	17,478	..	6,206	19,598
Exploration and exploitation of space	43,421	0	..	0	0
Basic research	10,573	129	..	49	1,333
Other civil research	179,607	84	..	39	1,498
Total	**179,607**	**21,386**	**..**	**18,142**	**38,344**

Table 47.
Total expenditures of provincial governments on R&D in the social sciences and humanities, by objective, 2002-03

Objective	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
			thousands of dollars		
Exploration and utilization of the earth	0	0	..	0	0
Infrastructure and general planning of land use:					
Transportation systems	624	0	..	0	0
Telecommunications	0	0	..	0	0
Other	0	0	..	0	0
Pollution, conservation and protection of the Environment	0	0	..	415	0
Public health	36,667	467	..	1,072	1,955
Production, distribution and rational utilization of energy	0	0	..	0	0
Agriculture production and technology	0	123	..	0	0
Fishing	0	0	..	0	0
Forestry	0	0	..	0	0
Industrial production and technology	0	0	..	0	0
Social development	12,176	970	..	1,970	425
Exploration and exploitation of space	0	0	..	0	0
Basic research	4,990	99	..	0	1,077
Other civil research	135	0	..	39	0
Total	**54,592**	**1,659**	**..**	**3,496**	**3,457**

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